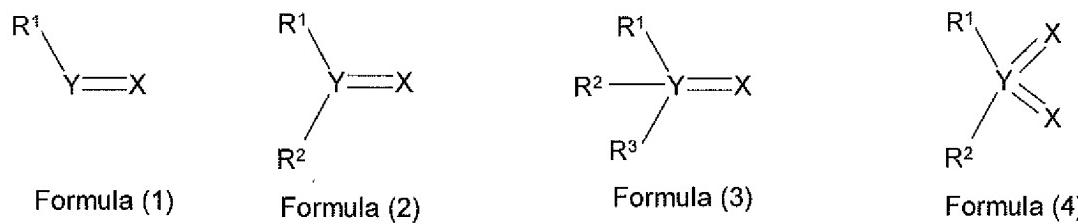


AMENDMENTS TO THE CLAIMS

1. (Currently amended) Organic electroluminescent device comprising anode, cathode and at least one emission layer comprising at least one matrix material A which is doped with at least one phosphorescent emitter, and at least one hole-blocking layer comprising at least one hole-blocking material B, characterised in that the hole-blocking material B contains at least one chemical structural unit of the formula Y=X, where X has at least one non-bonding electron pair and where the radical X stands for NR, O, S, Se or Te, and R stands for an organic radical having 1 to 22 carbon atoms or for OH, OR, NH₂, NHR⁶ or N(R⁶)₂, where R⁶=H or an organic radical having 1 to 20 C atoms, and where the radical Y stands for C, P, As, Sb, Bi, S, Se or Te, with the proviso that the matrix material A is not identical with the hole-blocking material B, wherein the hole blocking material B conforms to the formulae (1) to (4) according to scheme 1

Scheme 1



wherein

Y is, identically or differently on each occurrence, C or S in the formula (2) and P in the formulae (1) and (3) and S in the formulae (4);

X is on each occurrence, identically or differently, NR⁴, O or S;

R¹, R² and R³ is, identically or differently on each occurrence, H, F, CN, N(R⁴)₂, a straight-chain, branched or cyclic alkyl, alkoxy or thioalkoxy group having 1 to 40 C atoms, which may be substituted by R⁵ or also unsubstituted, in which one or more non-adjacent CH₂ groups may be replaced by -R⁶C=CR⁶-, -C≡C-, Si(R⁶)₂, C=O, C=S, C=Se, C=NR⁶, -O-, -S-, -NR⁶- or -CONR⁶- and in which one or more H atoms may be replaced by F, Cl, Br, I, CN or NO₂, or an aromatic or heteroaromatic ring system or an aryloxy or heteroaryloxy group having 1 to 40 aromatic C atoms, which may be substituted by one or more radicals R⁵; a

plurality of substituents R¹, R² and/or R³ here may form a mono- or polycyclic, aliphatic or aromatic ring system with one another; or an aromatic or heteroaromatic ring system bonded via a divalent group -Z-, or an aryloxy or heteroaryloxy group, each having 1 to 40 aromatic C atoms, in which one or more H atoms may be replaced by F, Cl, Br or I or which may be substituted by one or more non-aromatic radicals R⁴, where a plurality of substituents R⁴ may define a further mono- or polycyclic, aliphatic or aromatic ring system;

R⁴ is on each occurrence, identically or differently, a straight-chain, branched or cyclic alkyl or alkoxy chain having 1 to 22 C atoms, in which, in addition, one or more non-adjacent C atoms may be replaced by -R⁶C=CR⁶-, -C≡C-, Si(R⁶)₂, -NR⁶-, -O-, -S-, -CO-O- or -O-CO-O- and in which one or more H atoms may be replaced by fluorine, an aryl, heteroaryl or aryloxy group having 1 to 40 C atoms, which may also be substituted by one or more radicals R⁶, or OH or N(R⁵)₂;

R⁵ is on each occurrence, identically or differently, R⁴ or CN, B(R⁶)₂ or Si(R⁶)₃;

R⁶ is on each occurrence, identically or differently, H or an aliphatic or aromatic hydrocarbon radical having 1 to 20 C atoms;

Z is a straight-chain, branched or cyclic, preferably conjugated radical having 1 to 40 C atoms, which is preferably conjugated with the two other substituents, where the number of atoms of Z which link the group of the formula (1) and the aromatic radical is preferably an even number, where one or more non-adjacent C atoms may be replaced by -O-, -S- or -NR¹- and one or more C atoms may be substituted by a radical R¹ or halogen;

and with the proviso that the molecular weight of the hole-blocking material B is greater than 150 g/mol.

2. (Cancelled)

3. (Currently amended) Organic electroluminescent device according to claim 2 claim 1, characterised in that wherein Y = C, P or S, and X = O.

4. (Previously presented) Organic electroluminescent device according to claim 1, characterised in that the hole-blocking layer comprises at least 50% of the hole-blocking material B.
5. (Original) Organic electroluminescent device according to Claim 4, characterised in that the hole-blocking layer consists only of the hole-blocking material B.
6. (Previously presented) Organic electroluminescent device according to claim 1, characterised in that the compounds of the hole-blocking material B do not have a planar structure.
7. (Currently amended) Organic electroluminescent device according to ~~claim 2~~ claim 1, characterised in that at least one of the substituents R¹ to R⁴ in the hole-blocking material B contains at least one sp³-hybridised carbon atom.
8. (Original) Organic electroluminescent device according to Claim 7, characterised in that the sp³-hybridised carbon atom is a secondary, tertiary or quaternary carbon atom.
9. (Original) Organic electroluminescent device according to Claim 8, characterised in that the sp³-hybridised carbon atom is a quaternary carbon atom.
10. (Currently amended) Organic electroluminescent device according to ~~claim 2~~ claim 1, characterised in that a 9,9'-spirobifluorene derivative, a 9,9-disubstituted fluorene derivative, an indenofluorene derivative, a triptycene derivative, 9,10-dihydrophenanthrene derivative, a hexaarylbenzene derivative or a tetraaryl methane derivative is present in at least one of the radicals R¹ to R⁴.
11. (Currently amended) Organic electroluminescent device according to ~~claim 2~~ claim 1, characterised in that a 9,9'-spirobifluorene derivative or a 9,9-disubstituted fluorene is present in at least one of the radicals R¹ to R⁴.
12. (Previously presented) Organic electroluminescent device according to claim 1, characterised in that the matrix materials A are selected from the group of carbazoles, silanes, polypodal metal complexes, oligophenylenes based on spirobifluorenes, ketones, imines, phosphine oxides, phosphine sulfides, phosphine selenides, phosphazenes, sulfones and sulfoxides.

13. (Previously presented) Organic electroluminescent device according to claim 1, characterised in that the hole-blocking layer is directly adjacent to the electron-injection layer or cathode.
14. (Previously presented) Organic electroluminescent device according to claim 1, characterised in that the phosphorescent emitter present is a compound which contains at least one atom having an atomic number of greater than 36 and less than 84.
15. (Original) Organic electroluminescent device according to Claim 14, characterised in that the phosphorescent emitter contains at least one atom having an atomic number of greater than 56 and less than 80.
16. (Previously presented) Organic electroluminescent device according to Claim 14, characterised in that the phosphorescent emitter contains molybdenum, tungsten, rhenium, ruthenium, osmium, rhodium, iridium, palladium, platinum, silver, gold and/or europium.
17. (Previously presented) Organic electroluminescent device according to claim 1, characterised in that the glass transition temperature T_g of the hole-blocking material B is greater than 100°C.
18. (Previously presented) Organic electroluminescent device according to claim 1, characterised in that one or more layers are produced by a sublimation process.
19. (Previously presented) Organic electroluminescent device according to claim 1, characterised in that one or more layers are applied by the OVPD (organic vapour phase deposition) process.
20. (Previously presented) Organic electroluminescent device according to claim 1, characterised in that one or more layers are coated by a printing process.
21. (Original) Organic electroluminescent device according to Claim 20, characterised in that one or more layers are coated by the ink-jet printing process.
22. (Original) Organic electroluminescent device according to Claim 20, characterised in that one or more layers are coated by the LITI (light induced thermal imaging) process.

23. (Cancelled)

24. (Previously presented) Organic solar cell, organic field-effect transistor, organic thin-film transistor, organic integrated circuit or organic laser diode, characterised in that the structure complies with.

25. (Currently amended) The organic electroluminescent device as claimed in claim 2 claim 1, wherein Y=X, where X has at least one non-bonding electron pair and where the radical X stands for NR, NR⁴, O, or S, Se or Te and R and R⁴ stands for an organic radical having 1 to 22 carbon atoms or for OH, OR, NH₂, NHR⁶ or N(R⁶)₂, where R⁶ = H or an organic radical having 1 to 20 C atoms, and where the radical Y stands for C or P, C, P, As, Sb, Bi, S, Se or Te.

26. (Previously presented) A hole-blocking material in an electronic component which comprises the device as claimed in claim 25.

27. (Previously presented) An organic light-emitting diode, organic solar cell, organic field-effect transistor, organic thin-film transistor, organic integrated circuit or organic laser diode which comprises the hole-blocking material as claimed in claim 26.